

Amendment to the Claims:

1. (Currently amended) A fluorogenic protease substrate comprising a peptide having thiol groups and being doubly labelled via said thiol groups ~~of the peptide~~ with an alkyleneamidotetramethylrhodamine (alkyleneamidoTMR) group.
2. (Original) A fluorogenic protease substrate according to claim 1, which is doubly labelled with the same alkyleneamido-TMR group.
3. (Original) A fluorogenic protease substrate according to claim 2, wherein the alkyleneamido-TMR group is a methyleneamido-TMR group.
4. (Currently amended) A fluorogenic protease substrate according to claim 2 ~~or claim 3~~, wherein the peptide is doubly labelled with an isomeric form of the alkyleneamido-TMR group that is at least 90% pure with respect to other isomeric forms of the alkyleneamido-TMR group.
5. (Original) A fluorogenic protease substrate according to claim 4, wherein the alkyleneamido-TMR group is 5-alkyleneamido-TMR or 6-alkyleneamido-TMR.
6. (Currently amended) A fluorogenic protease substrate according to claim 4 ~~or claim 5~~, wherein the level of purity is at least 95%.
7. (Original) A fluorogenic protease substrate according to claim 6, wherein the level of purity is at least 98%.

8. (Currently amended) A fluorogenic protease substrate according to ~~any preceding claim~~claim 1, which contains one or more protease recognition sequences for one or more proteases of interest.
9. (Original) A fluorogenic protease substrate according to claim 8, wherein the protease recognition sequence is 2 to 8 amino acids in length.
10. (Currently amended) A fluorogenic protease substrate according to ~~any preceding claim~~claim 1, which is 4-20 amino acids in length, optionally excluding any terminal cysteine residues.
11. (Original) A fluorogenic protease substrate according to claim 10, which is 4-12 amino acids in length.
12. (Original) A fluorogenic protease substrate according to claim 11, which is 6-10 amino acids in length.
13. (Currently amended) A fluorogenic protease substrate according to ~~any preceding claim~~claim 1, which does not adopt a well-defined conformation, as determinable by NMR spectroscopy.
14. (Currently amended) A fluorogenic protease substrate according to ~~any preceding claim~~claim 1, wherein the alkyleneamido-TMR groups are attached to the peptide via cysteine residues.
15. (Original) A fluorogenic protease substrate according to claim 14, wherein the cysteine residues are C- and N-terminal cysteine residues.

16. (Original) A fluorogenic protease substrate according to claim 14, wherein the cysteine residues are internal, and the peptide is susceptible to protease cleavage between the cysteine residues.
17. (Currently amended) A fluorogenic protease substrate according to ~~any preceding claim~~claim 1, wherein the peptide contains exactly two cysteine residues.
18. (Currently amended) A method for producing a fluorogenic protease substrate ~~as defined in any preceding claim~~claimed in claim 1, the method comprising reacting an unlabelled peptide containing two thiol groups with haloalkylamido-TMR.
19. (Original) A method according to claim 18, wherein the halogen atom of the haloalkylamido-TMR is iodine.
20. (Original) A method according to claim 19, wherein the haloalkylamido-TMR is iodoacetamidotetramethylrhodamine (IATR).
21. (Currently amended) A fluorogenic protease substrate comprising a peptide doubly labelled with the same rhodamine derivative, ~~where~~wherein the two labels, and their linkages to the peptide, are substantially isomerically identical.
22. (Original) A fluorogenic protease substrate according to claim 21, wherein the label is linked to the peptide via thiol groups on the peptide.

23. (Currently amended) A fluorogenic protease substrate according to claim 21 ~~or claim 22~~, wherein the rhodamine derivative is a tetramethylrhodamine derivative.
24. (Currently amended) A method for assaying protease activity in a sample, the method comprising bringing into contact the sample and a fluorogenic substrate ~~as defined in any one of claims 1 to 17 and 21 to 23~~, as claimed in claim 1 under conditions suitable for protease activity, and determining whether an increase in fluorescence results.
25. (Original) A method according to claim 24, wherein fluorescence is determined for the substrate before and after contact with the sample.
26. (Currently amended) A method according to claim 24 ~~or claim 25~~, wherein the step of contacting the sample and the substrate occurs at a pH of between about 5 and 10.
27. (Currently amended) A method according to ~~any one of claims 24 to 26~~claim 24, wherein the sample ~~is a tissue sample, or other sample containing~~contains intact cells.
28. (Currently amended) A method according to ~~any one of claims 24 to 27~~claim 24, wherein the method ~~is for assaying~~ activity of a known protease is assayed, and wherein the substrate comprises the recognition sequence for that protease.
29. (Currently amended) A kit for use in a method of assaying protease activity, the kit comprising a fluorogenic protease substrate as ~~defined in any one of claims 1 to 17~~

~~and 21 to 23~~claimed in claim 1 and a standard protease composition for calibration of the assay.

30. (Original) A kit according to claim 29, wherein the fluorogenic protease substrate is immobilised.
31. (Currently amended) A solid support having immobilised thereon a fluorogenic protease substrate ~~as defined in any one of claims 1 to 17 and 21 to 23~~claimed in claim 1.
32. (Original) A solid support according to claim 31, bearing different said substrates respectively immobilised at different locations of the support.
33. (New) A method according to claim 27, wherein said sample is a tissue sample.